REMARKS

Reconsideration and allowance of this application are respectfully requested in view of the above amendments and the following remarks.

Withdrawal of the previous restriction requirement is noted with appreciation. The Office Action points out that Figures 14-18 should be designated by a legend indicating that they are background, and not a part of the invention. In addition, the Office Action objects to Figures 2, 4, 7, 9 and 13 of the drawings for various reasons. Accompanying this amendment is a Request for Approval of Drawing Corrections, requesting approval of corrections to overcome these various points, as well as other minor corrections the desirability of which was noted during the preparation of the present amendment.

The Office Action requests copies of the foreign are cited in the specification. Copies of that art presently available to the undersigned attorney for Applicants are submitted herewith. Copies of the utility model applications are not available; however, they are described in the specification.

Objection was made to claim 1 with the contention that a space had inadvertently been omitted between the words "insulating" and "material" in line 4 of the claim. It is believed that the space was present, but that printing of the claims with full justification made it appear that there was no space. In any event, claim 4 as amended above includes proper spacing. Accordingly, this objection is overcome.

The claims were rejected under 35 U.S.C. §112, second paragraph, as indefinite. With regard to claim 1, objection was made to the expression "said vacuum insulating member". With regard to claim 10, it was contended that it was unclear how the vacuum insulating member units can include storage portions. In claim 12 there was a lack of antecedent. Method claims 13-16 lacked proper action

verbs. Claim 1 has been canceled and replaced by claim 18, while claim 10 has been canceled and replaced by claim 21. These claims overcome these points. Claim 21 is directed specifically to the embodiment of Figures 12 and 13 of the drawings. Claim 21 uses the expression "storage body" which is found in the specification at, for example, page 36, line 19. Claims 12-16 have been amended to overcome the rejections. Accordingly, it is submitted that this rejection is no longer appropriate.

The specification, claims, and abstract have been amended to assure grammatical and idiomatic English and improved form under United States practice.

Claims 1-3, 10-12 and 15-17 were rejected under 35 U.S.C. §102(b) as being anticipated by Cur et al., United States Patent No. 5,082,335. This rejection is traversed, and reconsideration and withdrawal of it are respectfully requested. Applicants' invention, as described by the claims, is neither shown nor suggested by Cur et al., nor by any of the other references, whether the references be considered one at a time or in combination.

Cur et al. show a vacuum insulation system for insulating refrigeration cabinets. The Office Action refers to Figure 8, and contends that spacer blocks 40 can be considered filler insulating material. Using this interpretation, it would appear that the Examiner then considers insulation panel 28 of Figure 8 of Cur et al. to be the vacuum insulation member of the claims of the present application, and considers insulation material 26 to be the first and second heat insulating members of the claims of the present application. An alternative interpretation might be to consider the insulation material 26 to be the first and second heat insulating members and spacer blocks 40 to be the filler insulating material.

Regardless of which interpretation is utilized, the claims presently in the application distinguish patentably from Cur et al. Whether Cur et al's insulation

material 26 or their spacer blocks 40 be considered the first and second heat insulating members, those heat insulating members have a length substantially less than the length of the vacuum insulation member 28 in Cur et al. In contrast, as can be seen from the drawings of the present application, in each embodiment of Applicants' invention the heat insulating member, such as heat insulating members 53 in Figure 1 or heat insulating members 83A and 83B in Figure 3, extend at least as long as the vacuum insulation length of the vacuum insulation member 60. In the embodiment of Figure 1, the heat insulating members 53 extend across the plurality of vacuum insulation members 60, while in the embodiment of Figure 3 each insulating member is substantially the same length as the vacuum insulation length of the vacuum insulation members 60.

Claim 1 has been replaced by claim 18 which sets this forth. Thus, claim 18 recites that the heat insulating members extend at least as long as the vacuum insulation length of the vacuum insulation member. Dependent claim 19 is specific to the embodiment of Figure 1, reciting that the heat insulating wall comprises a plurality of vacuum insulating members and that each of the heat insulating members extends across the plurality of vacuum insulation members. Similarly, claim 20 is specific to the embodiment of Figure 3 and recites that the heat insulating wall comprises a plurality of vacuum insulation members, a like plurality of first heat insulating members, and a like plurality of second heat insulating members, with each vacuum insulation member being positioned between one of the first heat insulating members and one of the second heat insulating members.

It is accordingly submitted that claims 18-20 distinguish patentably from Cur et al. and are allowable. Claims 2-9 have been amended as appropriate to be dependent from claim 18.

Claim 10 has been replaced by claim 21 overcoming the rejection under 35 U.S.C. §112. Thus, claim 21 recites a plurality of first storage bodies, each having a surface with a fitting portion therein, a like plurality of second storage bodies, each having a surface with a fitting portion therein, and a like plurality of vacuum insulation members, and recites that each vacuum insulation member is positioned within the fitting portions of a respective of one of the first storage bodies and a respective one of the second storage bodies. Claim 21 goes on to recite the first panel contacting the first storage bodies and the second panel contacting the second storage bodies. Cur et al. does not show or suggest such a structure.

Claim 11 has been amended as appropriate to be dependent from claim 21.

Claims 22 and 23 have been added to assure Applicants the degree of protection to which their invention entitles them. Claims 22 and 23 are similar to claims 15 and 16, but are dependent from claim 14, rather than claim 12. Accordingly, claims 15 and 16 are also allowable.

In view of the above amendments and remarks, together with Request for Approval of Drawing Corrections, it is respectfully urged that all of the grounds for objection and rejection have been overcome, that the claims are allowable, and that the application is in condition for allowance. Such action would be appreciated.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned **"Version with markings to show changes made."**

To the extent necessary, Applicants petition for an extension of time under 37 CFR §1.136. Please charge any shortage in the fees due in connection with the filing

of this paper, including extension of time fees, to Deposit Account No. 01-2135 (Case No. 648.38454X00) and please credit any excess fees to such deposit account.

Respectfully submitted,

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JND/kmh

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

Paragraph beginning at page 1, line 4, has been amended as follows:

The present invention relates to a wall including a vacuum insulation panel (member) to be used in a heat insulating transportation container of a vehicle, enabling cold reservation and refrigeration.

Paragraph beginning at page 1, line 8, has been amended as follows:

DESCRIPTION OF [THE] RELATED ART.

Paragraph beginning at page 1, line 9, has been amended as follows:

(1) As shown in FIG. 14, a heat insulating wall 13 of a body 15 in a refrigeration vehicle or cold reservation vehicle 10 [applies] typically has the structures disclosed in the following:

Paragraph beginning at page 1, line 12, has been amended as follows:

a. [a] A sandwich panel 13A formed by adhering a slab 131, made of expanded urethane foam or expanded styrene foam [and] or the like (already expanded and formed into a plate-shape), to inner and outer panels 13a, 13b, made of a plate-shaped flattened aluminum material, FRP, or steel, by use of an adhesive 13c; or

Paragraph beginning at page 1, line 17, has been amended as follows:

b. [a] A panel 13B shown in FIG. 15, where an independent expanding urethane resin is injected and expanded between inner and outer panels 13a, 13b to

form a portion 133, and [bonding] the inner and outer panels are bonded with the self-adhering force of urethane.

Paragraph beginning at page 2, line 3, has been amended as follows:

(2) One [demand for] desire is that the heat-insulating container of vehicles [is to increase the] have increased capacity within the container (body).

Paragraph beginning at page 2, line 17, has been amended as follows:

One way to improve the heat insulation performance of the wall is to apply to the wall a vacuum insulation panel [to the wall] having a lower heat transfer rate than the conventionally used expanded plastic foam material.

Paragraph beginning at page 2, line 21, has been amended as follows:

The heat conductivity of [the] heat insulating materials is shown in Table 1.

Paragraph beginning at page 3, line 21, has been amended as follows:

Even further, when the vacuum insulation material is employed [to] in the wall without changing the thickness of the wall, the heat insulating performance may be quadrupled, and the fuel consumption rate will be improved.

Paragraph beginning at page 3, line 25, has been amended as follows:

(3) [From] For the above reasons, [the] a wall including [the] vacuum insulation material is already applied to portions of domestic (home) refrigerators. The wall structure applied to a domestic refrigerator utilizing the vacuum insulation panels is explained with reference to FIG. 16.

Paragraph beginning at page 4, line 3, has been amended as follows:

In a domestic refrigerator 20, vacuum insulation panels 25 are incorporated [to] in the outer walls 24 of a cooling chamber 21, a refrigerating chamber 22 and a vegetable chamber 23, the interior temperature of which must be maintained [to] at about 4-5 °C or [to] at about –18 °C.

Paragraph beginning at page 4, line 21, has been amended as follows:

In the wall structure, the bond between the outer panel 24a, the inner panel 24b, the aluminum laminated film 25b and the independent expanding urethane foam 24c is stronger than the self-adhering power of the urethane [foa] foam.

Paragraph beginning at page 4, line 25, has been amended as follows:

[m.] Therefore, in a domestic refrigerator, there is no need to bond the materials by use of fastening members such as rivets.

Paragraph beginning at page 5, line 5, has been amended as follows:

The present invention aims at solving the problem related to using a vacuum insulation panel for a heat insulating travel container, which differs from the domestic refrigerator in the environment of use and the manufacturing method. [[The difference in the environment of use and the manufacturing method between a domestic refrigerator and a heat insulating travel container]]

Paragraph beginning at page 5, line 12, has been amended as follows:

1) During transportation of the heat insulating travel container, the container is vibrated and deformed when traveling on a rough path or riding over a curbstone [and] or the like, and this causes the wall to receive bending or torsional load. [The] In the wall structure of a domestic refrigerator, as explained, [adheres] the vacuum insulation panel is adhered to the outer panel. When such a load is added to the wall, the stress will be directly transmitted to the vacuum insulation panel, and the intensity of the film may not [bare] bear such stress. As a result, the film may be torn. When the film is torn, the panel can no [further] longer maintain a [vacuumed] vacuum condition, and the heat insulating performance of the vacuum insulation panel is deteriorated.

Paragraph beginning at page 5, line 24, has been amended as follows:

Accordingly, when the vacuum insulation panel is utilized as [the] a component of a wall for a heat insulating travel container, the vacuum insulation panel should be positioned near the center of thickness of the wall, so that when bending or torsional load is added to the wall, only a small stress is transmitted to the film of the vacuum insulation panel.

Paragraph beginning at page 6, line 5, has been amended as follows:

2) Generally, a forklift is utilized for loading the [luggage] cargo in and out of the [refrigerating] refrigerated travel container. At this time, there is fear that the claws of the forklift may bump into the insulating wall, or obstacles outside the container may hit the wall, causing damage to the outer panel.

Paragraph beginning at page 6, line 10, has been amended as follows:

If the vacuum insulation panel is positioned close to the outer or inner panels of the insulating wall, [the] damage [added] to the panels may cause the film to break, and the insulating performance of the vacuum insulation panel may be deteriorated.

Paragraph beginning at page 7, line 4, has been amended as follows:

A base hole 130c is formed [to] in the inner panel 130a (or the outer panel 130b) with a drill. Thereafter, a rivet 18 is inserted [to] into the hole, and the rivet is pulled and fixed by a riveter. This may cause no trouble to the sandwich panel, but if the vacuum insulation panel 25 is placed between the inner and outer panels 130a, 130b, and film 25b of the panel 25b may be damaged when drilling the base hole or when inserting the rivet [to] into the hole.

Paragraph beginning at page 8, line 2, has been amended as follows:

a lashing rail (fixed to the inner panel) for fixing a lashing belt which prevents the [luggage] cargo inside the container from moving [by the] due to vibration, the starting or the stopping of the vehicle;

Paragraph beginning at page 8, line 5, has been amended as follows:

a pallet guide (fixed to the inner panel) preventing the [luggage] cargo inside the container from bumping into the side walls [by the] due to vibration, the starting or the stopping of the vehicles;

Paragraph beginning at page 8, line 12, has been amended as follows:

(5) The conventional methods for determining the necessary distance between the vacuum insulation panel and the inner and outer panels, and the method of fixing the panel [to] in position include the following:

Paragraph beginning at page 8, line 16, has been amended as follows:

1) Japanese Laid-Open Utility Model Application No. 4-68989 discloses placing a single-body vacuum insulation panel inside a flat panel-shaped mold[,] and injecting a urethane foam material around the insulation panel, so as to manufacture a vacuum insulation panel unit with [an] a urethane cover. The unit is placed between [the] inner and outer panels. In this case, the vacuum insulation panel placed within the mold for injection tended to move around the mold [by] due to the expanding pressure of the urethane material, and it was very difficult to fix the vacuum panel [to] in a determined position at the center of thickness of the wall material.

Paragraph beginning at page 9, line 1, has been amended as follows:

2) Japanese Patent Publication No. 2-9272 discloses a method of spraying a urethane foam [to] on the inner panel or the outer panel, and while the urethane foam is gelling or expanding, adhering a vacuum insulation panel to the urethane material.

Paragraph beginning at page 9, line 5, has been amended as follows:

According to the disclosed technique, there is a large dispersion to the state of expansion of the sprayed foam, and it [was] is difficult to fix the vacuum panel [to] in a determined position away from the inner panel or the outer panel.

Paragraph beginning at page 9, line 9, has been amended as follows:

3) Japanese Utility-Model Publication Nos. 1-20631 and 3-38628 disclose a wall formed by adhering a deforming sponge or plastic resin to [the] inner and outer panels, and mounting a vacuum insulation panel on that layer. [An] A urethane foam material is injected around the vacuum panel, so as to cover the outside of the panel. However, since the deforming sponge or deforming plastic resin are deformed by the expanding pressure of the urethane foam, it [was] is difficult for the vacuum panel to be fixed [to] in a determined position away from the inner and outer panels.

Paragraph beginning at page 9, line 19, has been amended as follows:

4) Japanese Laid-Open Patent Application Nos. 3-233285, 8-14484 and 8-14486 disclose fixing a vacuum insulation panel [to] in a desired position in the width of [the] a wall fixing jig. However, since the fixing jig itself has a very high heat conductivity, the heat-bridge is generated within the wall, and it [was] is difficult for the wall to provide a sufficient heat insulating performance.

Paragraph beginning at page 9, line 26, has been amended as follows:

Therefore, in order to solve the above-mentioned problems, the present invention provides a wall structure for a heat insulating container of a vehicle, adopting a wall structure including a vacuum insulation panel mounted [to] in a predetermined position way from the inner and outer panels, for example at the center of the width of the wall. The wall structure of a container according to the invention is advantageous in that the vacuum insulation panel maintains a high heat insulating performance.

Paragraph beginning at page 11, line 11, has been amended as follows:

The heat insulating wall according to other aspects of the invention [include] includes structures where the vacuum insulation members are adhered to [said] the heat insulating materials by a soft adhesive, where the plate-shaped heat insulating members or [said] the pillar-shaped heat insulating members are formed of hard plastic [foams] foam, or where the vacuum insulation member is sandwiched between the first and second pillar-shaped heat insulating materials to constitute a unit body.

Paragraph beginning at page 12, line 8, has been amended as follows:

The heat insulating wall according to another aspect of the invention comprises a first panel [with] having fixed thereto a first plate-shaped insulating material, [made of an insulating material fixed thereto,] a second panel [with] having fixed thereto a second plate-shaped insulating material, [made of an insulating material fixed thereto,] and vacuum insulation member units mounted between the first plate-shaped insulating material and the second plate-shaped insulating material, wherein the units each comprise a vacuum insulation member and seal support portions for supporting the seal portions of the vacuum insulation member.

Paragraph beginning at page 13, line 2, has been amended as follows:

The insulating wall according to another aspect of the invention comprises a first panel, a second panel, and vacuum insulation member units fit and stored in first and second storage portions formed between the first and second plates, wherein the distance between the first panel and the bottom of the fitting portion of the first storage portion, and the distance between the second panel and the bottom of the fitting portion of the second storage portion are both set to a predetermined size (equal

to [a] the depth of a base hole for inserting a fastening member plus an appropriate clearance).

Paragraph beginning at page 14, line 3, has been amended as follows:

The method of manufacturing a heat insulating wall according to another aspect of the invention comprises a first pillar-shaped heat insulating material positioning step of adhering and fixing first pillar-shaped heat insulating materials onto a first panel, a vacuum insulation member positioning step of mounting [the] vacuum insulation members to the first pillar-shaped heat insulating materials, a second pillar-shaped heat insulating material positioning step of adhering and fixing second pillar-shaped heat insulating materials onto the vacuum insulation members, a second panel positioning step of mounting a second panel onto the second pillar-shaped heat insulating materials, and an expanding plastic filling step of injecting liquid-plastic into a gap between the first and second panels and letting the plastic [to] foam, wherein the first pillar-shaped heat insulating materials to which the vacuum insulation members are mounted are arranged with appropriate intervals therebetween so that proximal vacuum insulation members do not come into contact with each other, and the first and second pillar-shaped heat insulating materials have a width [size] which is roughly the same [size] as the width of the vacuum insulation member.

Paragraph beginning at page 14, line 24, has been amended as follows:

The method according to another aspect of the invention comprises a unit forming step of forming a unit by sandwiching a vacuum insulation member with first and second pillar-shaped heat insulating materials, wherein the units are arranged

between a first panel and a second panel , and liquid plastic is injected and expanded in a gap between the first panel and the second [panels] panel.

Paragraph beginning at page 15, line 20, has been amended as follows:

The method according to another aspect of the invention comprises a first plate-shaped heat insulating material positioning step of adhering and fixing a plate-shaped heat insulating material formed of non-expanding plastic foam and having a predetermined thickness onto a first panel, a second plate-shaped heat insulating material positioning step of adhering and fixing a plate-shaped heat insulating material formed of non-expanding plastic foam and having a predetermined thickness onto a second panel, a unit forming step of assembling a vacuum insulation member unit comprising a vacuum insulation member and a seal support portion for supporting the seal portion of the vacuum insulation member, and a pressurizing step of sandwiching the vacuum insulation member [units] unit with the first and second panels to which are fixed the plate-shaped insulating materials, and adhering the [units to] unit in position.

Paragraph beginning at page 16, line 17, has been amended as follows:

The method according to another aspect of the invention comprises a unit forming step of storing a vacuum insulation member within an insulation storage portion, formed of first and second storage portions each having a fitting portion, so as to form a unit; and a pressurizing step of sandwiching the vacuum insulation member [units] unit with a first panel and a second panel, and fixing the unit [to] in position.

Paragraph beginning at page 16, line 24, has been amended as follows:

The above method [characterizes] is characterized in that both the distance between the first panel and the bottom of the fitting portion of the first storage portion and the distance between the second panel and the bottom of the fitting portion of the second storage portion are set to a predetermined size (equal to [a] the depth of a base hole for inserting a fastening member plus an appropriate clearance).

Paragraph beginning at page 17, line 8, has been amended as follows:

[FIG. 2 is an] FIGS. 2A and 2B are explanatory [view] views showing the structure of the insulating wall according to the present invention;

Paragraph beginning at page 17, line 17, has been amended as follows:

[FIG. 7 is an] FIGS. 7A-7D are explanatory [view] views showing the structure of FIG. 6;

Paragraph beginning at page 17, line 20, has been amended as follows:

[FIG. 9 is] FIGS. 9A-9D are an explanatory [view] views of FIG. 8;

Paragraph beginning at page 18, line 2, has been amended as follows:

[FIG. 13 is an] FIGS. 13A-13D are explanatory [view] views of FIG. 12;

Paragraph beginning at page 18, line 16 has been amended as follows:

FIG. 1 shows a cross-sectional view of a wall according to the first embodiment of the present invention. FIGS. 2A and 2B show the structure of that wall.

Paragraph beginning at page 18, line 18, has been amended as follows:

A wall 50 comprises a first panel 51A and a second panel 51B acting as an outer panel and an inner panel, [a] slab material members 53 made of a heat insulating material, and a vacuum insulation member 60.

Paragraph beginning at page 18, line 22, has been amended as follows:

[A] The plate-shaped slab material members 53, having a heat insulating effect, [is] are adhered to a first panel 51A and the second panel 51B. The plate-shaped slab material members 53 [is] are made of hard-type plastic foam such as styrene foam or urethane foam. The thickness S of [the] each material member 53 is equal to or [above] greater than the size of a base hole plus a clearance amount α. For example, if the size of the base hole is 15 mm and the clearance amount (α) is 10 mm, the size S is equal to or [above] greater than 25 mm.

Paragraph beginning at page 19, line 5, has been amended as follows:

An adhesive 52 for the first and second plates 51A, B and the slab material members 53 may be thermoplastic adhesive (vinyl acetate system, acrylic system, polyamide system, polyester system, polyurethane system, etc.,) hot-setting adhesive (amino system, urea system, melamine system, phenol system, resorcylic system, xylene system, furan system, epoxy system, urethane system, acryl system, unsaturated polyester system, etc.,) hot-melting adhesive (including reaction setting adhesive,) rubber-system adhesive, cyanoacrylate adhesive, synthetic water-soluble adhesive, emulsion adhesive, liquid polymer adhesive, and so on.

Paragraph beginning at page 19, line 16, has been amended as follows:

Especially, when taking into consideration the heat increase (approximately 80-90 °C) caused by the [insolation] insulation outside, adhesives having heat resisting property, such as [the] hot-setting urethane adhesive, [the] epoxy adhesive or [the] reaction-setting hot-melting adhesive are preferred.

Paragraph beginning at page 20, line 3, has been amended as follows:

The slab material members 53 and the vacuum insulation member 60 are adhered by an adhesive 62. In this case, the adhesive may be thermoplastic adhesive (vinyl acetate system, acrylic system, polyamide system, polyester system, polyurethane system, etc.,) hot-setting adhesive (amino system, urea system, melamine system, phenol system, resorcylic system, xylene system, furan system, epoxy system, urethane system, acryl system, unsaturated polyester system, etc.,) hot-melting adhesive (including reaction setting adhesive,) rubber-system cyanoacrylate adhesive, synthetic water-soluble adhesive, emulsion adhesive, liquid polymer adhesive, and so on.

Paragraph beginning at page 20, line 14, has been amended as follows:

The vacuum insulation member 60 is formed by coating an aluminum-laminated film 61 to [continuous] continuously expanded foam 65 made of synthetic resin, and sealing the same at a seal portion 67 so as to provide a [vacuumed] vacuum state.

Paragraph beginning at page 21, line 11, has been amended as follows:

Moreover, a getter agent is placed [to] in the interior of the vacuum insulation member 60. The getter agent is for adsorbing the gas that otherwise prevents the member from maintaining the degree of vacuum. The agent may be an adsorption type of activated carbon or zeolite, or may be chemical-reaction adsorption type.

Paragraph beginning at page 22, line 2, has been amended as follows:

(1) The slab material members 53 [is] are adhered to panel 51A and panel 51B, respectively.

Paragraph beginning at page 22, line 4, has been amended as follows:

The plate-shaped slab material members 53 made of plastic foam (styrene form, urethane foam and the like) with a plate thickness S of approximately 25 mm [is] are adhered at [its] their contact [surface] surfaces to the first and second panels 51A and 51B through the adhesive 52. Thereby, the first panel 51A to which the slab material member 53 is adhered and the second panel 51B to which the slab material member 53 is adhered [is] are manufactured.

Paragraph beginning at page 22, line 15, has been amended as follows:

The adhesive 62 may either be applied to both surfaces of the vacuum insulation member 60, or may be applied to the whole surface of the slab material member 53, before placing the vacuum insulation members 60 [to] in the predetermined positions.

Paragraph beginning at page 22, line 19, has been amended as follows:

(3) The slab material member 53 fixed to the second panel 51B is placed on top of the vacuum insulation member 60, and fixed thereto by pressurized adhesion.

Paragraph beginning at page 22, line 22, has been amended as follows:

Actually, the adhesive 62 is either applied on the upper surface of the vacuum insulation member 60 before performing the pressurized adhesion, or the adhesive 62 is applied to the whole surface of the slab material member 53 fixed on the second panel 51B before placing it on the vacuum insulation panel 60 and performing the pressurized adhesion

Paragraph beginning at page 23, line 2, has been amended as follows:

Thereby, the vacuum insulation member 60 is sandwiched between the first plate 51A with the slab material member and the second plate 51B with the slab material member.

Paragraph beginning at page 23, line 5, has been amended as follows:

(4) After adhering the first and second panels 51 A, B with the slab material members 53 to both sides of the vacuum insulation member 60, a urethane foam material-liquid is injected [to] into the spaces surrounded by the vacuum insulation panel 60 and the slab material members 53 made of plastic foam (insulating material).

Paragraph beginning at page 23, line 10, has been amended as follows:

The injected urethane foam material-liquid fills complicated spaces such as the area around the heat seal portion 67 of the member 60 and the small gap between the

member 60 and the plastic foam slab material members 53, and expands. Then, by self-adhesion or by use of an adhesive, it is adhered to the surrounding members.

Paragraph beginning at page 23, line 16, has been amended as follows:

The heating insulating wall 50 manufactured as above may position the vacuum insulation member 60 [to be arranged] approximately in the center of the wall thickness and separated by a distance (25 mm) from the inner and outer panels (51A, 51B) having predetermined sizes, by setting the thickness S of the slab [materials] material members 53 on the first and second (inner and outer) panels to a predetermined size (for example, 25 mm). Further, since urethane material-liquid is filled by injection [to] into the spaces within the [member,] wall, there will be no spaces having high heat conductivity formed in the wall. Therefore, the present method provides a wall structure member with good heat insulating [characters] characteristics.

Paragraph beginning at page 24, line 2, has been amended as follows:

Moreover, since the vacuum insulation member 60 is placed approximately in the center area of the wall thickness of the wall structure member 50, the loads [to] on the wall, such as [the] vibration when used for vehicles, [the bend] bending or torsion caused by deformation, or [the] outer [damages] damage to the wall caused by the claws of a forklift [and] or the like, will not reach the film. Therefore, outer damage will not reach the vacuum insulation member 60 easily. Further, since the plate-thickness of the slab material members 53 is greater than the base hole size, [the] riveting performed when manufacturing the insulating container will not damage the vacuum insulation member 60.

Paragraph beginning at page 24, line 19, has been amended as follows:

The soft adhesive may preferably be [the] RT-16 (trademark) manufactured by Japan NSC K. K.

Paragraph beginning at page 24, line 21, has been amended as follows:

As explained, the wall or the manufacturing method of the wall shown in the present embodiment is advantageous in that the vacuum insulation members 60 may be securely mounted [to] in a position away from the inner and outer plates 51A, 51B by a predetermined distance (base hole size for riveting [+] plus a clearance amount α) so that they receive [small] little outer influence. Moreover, the insulating [characters] characteristics of the vacuum insulation members 60 positioned approximately at the center of the thickness of the wall [would] will not be damaged by vibration, torsion or outer forces. Therefore, a secure insulation is provided.

Paragraph beginning at page 25, line 15, has been amended as follows:

(1) A plurality of pillar-shaped first slab (insulating) [materials] material members 83A formed of hard plastic foam with a thickness S (for example, 25mm) and a width W equal to the width W of the vacuum insulation member 60 are adhered to the first panel 81A acting as the outer panel.

Paragraph beginning at page 25, line 20, has been amended as follows:

The first slab [materials] material members 83A are positioned [with] at appropriate intervals.

Paragraph beginning at page 25, line 22, has been amended as follows:

The adhesive 82 is either applied only to the adhesion surface of the first slab material member 83A, or to the whole surface of the first panel 81A.

Paragraph beginning at page 25, line 25, has been amended as follows:

(2) The adhesive 85 is applied on the first slab [materials] material member 83A. Then, the vacuum insulation members 60 are placed and adhered thereto.

Paragraph beginning at page 26, line 2, has been amended as follows:

(3) The adhesive 85 is applied on top of the vacuum insulation members 60, and pillar-shaped second slab (insulating) members [85B] 83B having the same size as the first slab material members 83A are mounted for adhesion to the adhesive.

Paragraph beginning at page 26, line 10, has been amended as follows:

(4) The adhesive is applied on top of the second slab [materials] material members 83B, and the second panel 81B is fixed thereto by pressurized adhesion. [Or instead] Alternatively, the adhesive 82 may be applied to the whole surface of adhesion of the second panel 83B.

Paragraph beginning at page 26, line 15, has been amended as follows:

(5) After adhesion, [an] a urethane foam material-liquid is injected [to] into the spaces surrounded by the vacuum insulation members 60 sandwiched [by] between the first slab [materials] material members 83A and the second slab [materials] material members 83B made of plastic foam and the first and second panels 81A, 81B. The urethane foam material-liquid is injected [to] into and

completely fills the area around the heat seal portion 67 of the vacuum insulation member 60 and the small gap of the adhered portion between the slab [materials] material members 83A, 83B and the members 60.

Paragraph beginning at page 27, line 5, has been amended as follows:

As explained, the wall 80 and the method of manufacturing the same according to the present embodiment [is] are advantageous in that the vacuum insulation members 60 are securely mounted [to] in a position away from the inner and outer plates 81A, 81B with a predetermined distance (base hole size for riveting [+] plus a clearance amount α) so that they receive small outer influence. Moreover, the insulating characteristics of the vacuum insulation members 60, positioned approximately at the center of thickness of the wall, [would] will not be damaged [of its insulating characters] by vibration, torsion or outer force. Therefore, a secure insulation is provided.

Paragraph beginning at page 28, line 8, has been amended as follows:

(3) After adhering the unit 90U and the first and second panels 91A and 91B, a urethane foam material-liquid is injected [to] into the spaces surrounded by the unit 90U, the first panel 91A and the second panel 91B. The urethane foam is expanded within the spaces, thereby completing the wall 90.

Paragraph beginning at page 28, line 20, has been amended as follows:

A heat insulating wall 500 according to the present embodiment comprises a plate-shaped first slab material member 530A having an insulating effect and adhered to a first panel 510A, and a plate-shaped second slab material member 530B having

an insulating effect and adhered to a second panel 510B. The plate-shaped slab [materials] material members 530A and 530B are formed of non-expanding plastic foam such as styrene form or urethane foam [and] or the like. The thickness S of the slab [materials are] material members is set to be equal to or [larger] greater than the size of a base hole formed thereto for inserting fastening members plus a clearance [portion] amount (α). For example, when the size of the base hole in the embodiment is 15 mm, and the clearance amount (α) is set to 10 mm, the thickness S is equal to or [over] greater than 25 mm.

Paragraph beginning at page 29, line 7, has been amended as follows:

An adhesive 520 for adhering the first and second panels 510A, 510B and the slab material [530] members 530A and 530B is the same as that explained in embodiment 1.

Paragraph beginning at page 29, line 10, has been amended as follows:

Vacuum insulation members 60 are positioned between the first slab material [530] member 530A adhered and fixed to the first panel 510A and the second slab material member 530B adhered and fixed to the second panel 510B, utilizing adhesive 62, with appropriate intervals between each member 60 so that they do not come into contact with one another.

Paragraph beginning at page 29, line 15, has been amended as follows:

Filling slab [materials] material members 550 are placed in the spaces surrounded by the first slab material member 530A, the second slab material member 530B, and the vacuum insulation members 60.

Paragraph beginning at page 29, line 18, has been amended as follows:

The filling slab [materials] material members 550 are formed of a non-expanding plastic foam such as a styrene foam or [an] a urethane foam [and] or the like, similar to the first and second slab [materials] material members 530A, 530B. The filling slab [materials] material members 550 include a first filling slab material member 550A and a second filling slab material member 550B.

Paragraph beginning at page 29, line 23, has been amended as follows:

The height t of each of the first and second filling slab [materials] material members 550A and 550B [are] is set to approximately half the height T of the vacuum insulation member 60 (t = T/2). When the first and second filling slab [materials] material members 550A and 550B are superposed, their height equals the height of the vacuum insulation member 60.

Paragraph beginning at page 30, line 3, has been amended as follows:

A seal portion 67 of the vacuum insulation member 60 is sandwiched by the first filling slab material member 550A and the second filling slab material member 550B, which are adhered and fixed [to] in position.

Paragraph beginning at page 30, line 7, has been amended as follows:

The method of manufacturing the wall 500 is explained now with reference to [FIG. 7] FIGS. 7A-7D.

Paragraph beginning at page 30, line 9, has been amended as follows:

(1) Slab [materials 530] material members 530A and 530B are adhered to plate 510A and plate 510B, respectively.

Paragraph beginning at page 30, line 11, has been amended as follows:

The plate-shaped slab [materials 530,] material members 530A and 530B, made of non-expanding plastic foam (styrene foam, urethane foam, etc.) with a plate thickness S of approximately 25 mm, are adhered by an adhesive at [its] their respective contact [surface] surfaces with the first and second panels 510A, 510B, respectively. Thereby, a first panel 510A to which the slab material member 530A is adhered, and a second panel 510B to which the slab material member 530B is adhered, are manufactured (refer to [a.)] Fig. 7A).

Paragraph beginning at page 30, line 19 has been amended as follows:

(2) On top of the first slab material member 530A adhered to the first panel 510A are adhered the vacuum insulation members 60 and first filling slab [materials] material members 550A formed of non-expanding plastic foam. Since the height t of the first filling slab material member 550A is approximately half the height T of the vacuum insulation member 60, the seal portion 67 of the vacuum insulation member 60 is placed on top of the first filling slab material member 550A. In this state, the width W of the first filling slab material member 550A is set so that the seal portions [65] 67 of the proximate vacuum insulation members 60 do not come into contact with each other (when the length of the seal portion [65] 67 is [x] w, $W \geqq 2w$) (refer to [b).] Fig. 7B).

Paragraph beginning at page 31, line 5, has been amended as follows:

(3) The second filling slab material member 550B formed of non-expanding plastic foam is mounted on the first filling slab material member 550A. Thereby, the seal portion 67 of the vacuum insulation member 60 is sandwiched between the first filling slab material member 550A and the second filling slab material member 550B.

Paragraph beginning at page 31, line 10, has been amended as follows:

Since the first filling slab material member 550A and the second filling slab material member 550B, each having a height t, which is approximately half the height T of the member 60, are superposed, the second filling slab material member 550B and the vacuum insulation member 60 form a [leveled] level surface (refer to [c.)] Fig. 7C).

Paragraph beginning at page 31, line 15, has been amended as follows:

(4) The slab material member 530B formed of [the] non-expanding plastic foam adhered to the second panel 510B is placed above the second filling slab [materials] material member 550B and the vacuum insulation members 60, and pressurized adhesion is provided thereto (refer to [d.)] Fig. 7d).

Paragraph beginning at page 31, line 20, has been amended as follows:

The adhesive is either applied to the top surface of the vacuum insulation member 60 before pressurized adhesion, or the adhesive is applied to the whole surface of the slab material member [530] 530B of the second panel 510B contacting the vacuum insulation member 60, before being placed on top of the member 60 for pressurized adhesion.

Paragraph beginning at page 31, line 26, has been amended as follows:

The heat insulating wall 500 and the method of manufacturing the same [is] are advantageous in that the vacuum insulation members 60 may be securely mounted [to] in a position away from the inner and outer plates 510A, 510B by a predetermined distance (base hole size for riveting [+] plus a clearance amount α) so that they receive [small] little outer influence. Moreover, the vacuum insulation members 60 positioned approximately at the center of the thickness of the wall [would] will not be damaged [of its] in their insulating [characters] characteristics by vibration, torsion or outer force. Therefore, a secure insulation is provided.

Paragraph beginning at page 32, line 10, has been amended as follows:

Even further, since the heat insulating wall 500 is constituted of the vacuum insulation members 60 and the formed slab [materials] material members 530, 550 made of non-expanding plastic foam, the problems related to the spaces generated when cooling the expanding urethane foam injected in [forms] the form of material-liquid [to] into the wall [is] are solved. According to the present embodiment, the outer appearance [would] will be improved, the members may be assembled without any gaps, and the heat insulating effect will be improved. Moreover, a plurality of heat insulating walls may be manufactured by a single pressurization step.

Paragraph beginning at page 33, line 5, has been amended as follows:

(1) A first panel 510A acting as the outer panel, to which a first plate-shaped slab (insulating) material member 530A made of a non-expanding plastic foam having a thickness of S (for example, approximately 25 mm) is adhered, and a second panel 510B acting as the inner panel, to which a second plate-shaped slab (insulating)

material member 530B made of a non-expanding plastic foam having a thickness of S (for example, approximately 25 mm) is adhered, are manufactured.

Paragraph beginning at page 33, line 13, has been amended as follows:

(2) A vacuum insulation member unit 700U is formed (refer to [FIG. 9).] Figs. 9A-9D).

Paragraph beginning at page 33, line 15, has been amended as follows:

A cut slab material assembly 770 is adhered and fixed to the vacuum insulation member 60.

Paragraph beginning at page 33, line 17, has been amended as follows:

The cut slab material assembly 770 [constitutes] is made of a first cut slab material member 770a and a second cut slab material member 770b for sandwiching the seal portion 67 of the vacuum insulation member 60.

Paragraph beginning at page 33, line 20, has been amended as follows:

The first and second cut slab [materials] material members 770a and 770b are formed of a non-expanding plastic foam such as a styrene foam or [an] a urethane foam. The cut slab [materials] material members are pillar-shaped, with a height t [being] half the height T of the vacuum insulation member 60 ($t = T/2$), and a width W equal to or a little longer than the width w of the seal portion 67 ($W \geqq w$).

Paragraph beginning at page 33, line 26, has been amended as follows:

The seal portion 67 of the vacuum insulation member 60 is sandwiched between the first and second cut [slabs] seal material members 770a, 770b, which are adhered and fixed [to] in position, thereby forming the vacuum insulation member unit 700U (refer to [FIG. 9 a, b.)] Figs. 9A and 9B).

Paragraph beginning at page 34, line 4, has been amended as follows:

(3) The vacuum insulation member units 700U are arranged on the first plate-shaped slab material member 530A of the first panel 510A, and adhered [to] in position (refer to FIG. [9 c.)] 9C).

Paragraph beginning at page 34, line 7, has been amended as follows:

(4) The second slab material member adhered to the second panel 510B is mounted and adhered, through an adhesive, on top of the vacuum insulation member units 700U.

Paragraph beginning at page 34, line 12, has been amended as follows:

The vacuum insulation member 60, being reinforced (on both sides) by the first and second cub slab [materials] material members 770a and 770b, is formed as a unit. The units are sandwiched between the first slab material member 530A, having a predetermined thickness and adhered to the first panel 510A, and the second slab material member 530B, having a predetermined thickness and adhered to the second panel 510B, so as to form the heat insulating wall 700.

Paragraph beginning at page 34, line 22, has been amended as follows:

A heat insulating wall 800 includes cut slab [materials] material members 870a, 870b which are each equipped with a [hole] recess 870 for inserting the seal portion 67 of the vacuum insulation member 60.

Paragraph beginning at page 34, line 25, has been amended as follows:

The cut slab [materials] material members 870a, 870b are formed of a non-expanding plastic foam such as a styrene foam or [an] a urethane foam. The height T of the pillar-shaped slab [materials] material members 870a, 870b [are] is set to be the same as the height T [as] of the vacuum insulation member 60, and the width [size] W of the slab [materials are] material members is equal to or a little longer than the length w of the seal portion [65] 67 of the member 60 ($W \geq w$). A [hole] recess 870 is formed [to] in one side of each of the cut slab [materials] material members 870a and 870b. The [hole] recess 870 is a concave portion formed [to] at approximately the center of height T, and with a length (depth) equal to the length w of the seal portion 65.

Paragraph beginning at page 35, line 10, has been amended as follows:

The cut slab [materials] material members 870a and 870b formed as above are positioned [to] on both sides of the vacuum insulation member 60. At this time, the seal portions [65, 65] 67, 67 of the vacuum insulation member 60 [is] are each inserted [to] in the [hole] recess 870 formed [to] in the cut slab material member 870a and the [hole] recess 870 formed to the cut slab material member 870b. The members are adhered and fixed [to] in position.

Paragraph beginning at page 35, line 16, has been amended as follows:

The unit 800U shown in the present embodiment is formed so that the cut slab material member 870a is placed on one side of the vacuum insulation member 60, and the material member 870b is placed on the other side of the member 60.

Paragraph beginning at page 35, line 20, has been amended as follows:

[According to] Accordingly, the heat insulating walls 700 and 800[,] and [to] the method of manufacturing the same shown in the above-mentioned embodiment [is] are advantageous in that the most difficult and complicated steps of fixing the seal portion [65] 67 of the vacuum insulation member 60 with the plastic slab materials in manufacturing a wall are simplified by forming units including the member 600. According to the present embodiment, the number of steps performed before the pressurization step is reduced, and the productivity as a whole is improved. Moreover, the vacuum insulation members may be securely mounted [to] in a position away from the inner and outer plates 510A, 510B by a predetermined distance S (base hole size for riveting [+] plus a clearance amount α) so that they receive [small] little outer influence. Moreover, the vacuum insulation members 60 positioned approximately at the center of thickness of the wall [would] will not be damaged [of its] in their insulating [characters] characteristics by vibration, torsion or outer force. Therefore, a secure insulation is provided.

Paragraph beginning at page 37, line 11, has been amended as follows:

(1) The vacuum insulation member 60 is [fit] fitted to the fitting portion 970 of the first storage body 950A[,] and adhered [to] in position. The seal portions 67, 67 are mounted on the upper area of the storage body 950A (refer to [a, b.)] Figs. 13A and 13B).

Paragraph beginning at page 37, line 15, has been amended as follows:

(2) The second storage body 950B is mounted [to] on the upper portion of the first storage body 950A, and adhered thereto. At this time, the exposed portion of the vacuum insulation member 60 is fit to the fitting portion 970 of the second storage body 950B. Thereby, the unit 900U is completed[.] (refer to Fig. 13C).

Paragraph beginning at page 37, line 20, has been amended as follows:

(3) Units 900U are arranged and fixed on the first panel 510A. The second panel 510B is placed above the units 900U, in order to complete the wall 900[.] (refer to Fig. 13D).

Paragraph beginning at page 37, line 25, has been amended as follows:

The heat insulating wall 900 includes units 900U formed by storing the vacuum insulation member 60 [to] in the fitting portions 970, 970 formed [to] in the first and second storage bodies 950A, 950B. The units are assembled by simple steps. Moreover, there is no need for slab materials utilized for positioning the vacuum insulation member 60, which [enables] makes it possible to reduce the number of components needed for manufacturing the wall 900[,] and the improve the productivity. Even further, the vacuum insulation members may be securely mounted [to] in a position away from the inner and outer plates 510A, 510B by a predetermined distance S (base hole size for riveting [+] plus a clearance amount α) so that they receive [small] little outer influence. Moreover, the vacuum insulation members 60 positioned approximately at the center of thickness of the wall [would]

will not be damaged [of its] in their insulating [characters] characteristics by vibration, torsion or outer force. Therefore, a secure insulation is provided.

Paragraph beginning at page 39, line 11, has been amended as follows:

Moreover, according to the present method of manufacturing the heat insulating wall, the vacuum insulation members [could] can be positioned securely [to] in the predetermined position within the inner and outer panels.

In the Claims:

Claim 1 has been canceled.

Claim 2 has been amended as follows:

2. (Amended) The heat insulating wall according to claim [1] 18, wherein said first heat insulating [material] member and said second heat insulating [material] member are plate-shaped.

Claim 3 has been amended as follows:

3. (Amended) The heat insulating wall according to claim [1] 18, wherein said first heat insulating [material] member and said second heat insulating [material] member are pillar-shaped.

Claim 4 has been amended as follows:

4. (Amended) The heat insulating wall according to claim [1] 18, wherein said filler insulating [member] material is formed of expanding plastic foam.

Claim 5 has been amended as follows:

5. (Amended) The heat insulating wall according to claim [1] 18, wherein said filler insulating [member] material is formed of non-expanding plastic foam, and [seal portions of] said vacuum insulation member [are] includes seal portions supported by said filler insulating [member] material.

Claim 6 has been amended as follows:

6. (Amended) The heat insulating wall according to claim 5, wherein said filler insulating [member] material comprises a first filler insulating [member] material portion and a second filler insulating [member] material portion, and said seal portions of said vacuum insulation member are sandwiched between said first filler insulating [member] material portion and said second filler insulating [member] material portion.

Claim 7 has been amended as follows:

7. (Amended) The heat insulating wall according to claim [1] 18, wherein said vacuum insulation member includes seal portions, and said filler insulating [member] material comprises [a] seal support means for supporting said seal portions [of said vacuum insulation member].

Claim 8 has been amended as follows:

8. (Amended) The heat insulating wall according to claim 7, wherein said seal support means comprises a first seal support portion and a second seal

support portion, said first and second seal support portions [for] sandwiching said seal [portion of said vacuum insulation member] portions.

Claim 9 has been amended as follows:

9. (Amended) The heat insulating wall according to claim 7, wherein said seal support means [is a] includes concave [portion formed to a seal support portion to] portions into which said seal [portion] portions of said vacuum insulation member [may be] are inserted.

Claim 10 has been canceled.

Claim 11 has been amended as follows:

11. (Twice Amended) The heat insulating wall according to claim [10] 21, wherein [said predetermined size is set to be] the distance from said first panel to the fitting portion of said first storage body, and the distance from said second panel to the fitting portion of said second storage body are both equal to a depth of a base hole for inserting a fastening member plus [an appropriate] a clearance amount.

Claim 12 has been amended as follows:

12. (Amended) A method of manufacturing a heat insulating wall, [including one or more vacuum insulation members,] comprising:

[a first heat insulating material positioning step of] mounting a first heat insulating [material] member onto a first panel;

[a second heat insulating material positioning step of] mounting a second heat insulating [material] member onto a second panel;

[a vacuum insulation member positioning step of] mounting vacuum insulation members between said first and second heat insulating [materials] members; and

[a filling step of positioning] injecting and expanding a liquid-plastic filler insulating [member] material in [the] a space formed between said first and second heating insulating [materials] members;

wherein said vacuum insulation members are arranged with appropriate intervals therebetween so that proximal vacuum insulation members do not come into contact with each other. [, and the thickness of said first and second heat insulating materials are set to a predetermined size.]

Claim 13 has been canceled.

Claim 14 has been amended as follows:

14. (Amended) [The] A method of manufacturing a heat insulating wall [according to claim 12, wherein said filler insulating member is formed of] comprising:

mounting a first heat insulating member onto a first panel;

mounting a second heat insulating member onto a second panel;

mounting vacuum insulation members between said first and second heat insulating members; and

positioning a non-expanding plastic foam[, and during said filling step, said] filler insulating [member is positioned] material into a space formed between said first and second heating insulating members so as to sandwich [a] seal [portion] portions of said vacuum insulation [member.] members;

wherein said vacuum insulation members are arranged with appropriate intervals therebetween so that proximal vacuum insulation members do not come into contact with each other.

Claim 15 has been amended as follows:

15. (Amended) The method of manufacturing a heat insulating wall according to claim 12, wherein each of said first heat insulating [material] member and said second heat insulating [material each include] member includes a fitting portion for storing said vacuum insulation [member] members, and [during] said vacuum insulation member mounting [positioning] step[,] comprises storing said vacuum insulation [member is stored to] members in said fitting [portion formed to said first and second heat insulating materials] portions.

Claim 16 has been amended as follows:

16. (Amended) The method of manufacturing a heat insulating wall according to claim 12, wherein each of said vacuum insulation [member] members is sandwiched between one of said first heat insulating members and one of said second heat insulating [materials] members before [being] said heat insulating members are mounted on said first [panel] and second panels.

Claim 17 has been amended as follows:

17. (Amended) The heat insulating wall according to claim [1] 18, wherein [said predetermined size is set to be] each of the distance from said first panel to said vacuum insulation member, and the distance from said second panel to said

vacuum insulation member is equal to a depth of a base hole [of] for inserting a fastening member plus [an appropriate] a clearance amount.

In the abstract:

A heat insulating wall [50 comprises a], and a method of manufacturing the same. A laminated body [including] includes a first panel, [51A,] a first plate-shaped insulating [material] member [53] made of plastic foam and having a predetermined thickness, a vacuum insulation member [60] mounted on the [material] insulating member, [53,] a second plate-shaped insulating [material] member [53] made of plastic foam, and a second panel. [51B.] The area between the first and second panels [51A, 51B] surrounded by the first plate-shaped insulating [material] member, [53,] the vacuum insulation member, [60,] and the second plate-shaped insulating [material] member, [53,] is filled with [expanding] expanded plastic foam. [55.] The thickness of the first and second plate-shaped insulating [materials 53, 53 are] members is set to a predetermined thickness S.